

## APPENDIX 14

### Terrestrial Wildlife Species Descriptions and Occurrence Maps

The following key wildlife species or groups of species are found in the Gold Belt TMP planning area:

**Bighorn Sheep:** Mountain sheep, also called bighorn sheep or simply bighorns, are blocky, heavily built mammals whose color varies seasonally and geographically from grayish brown to medium brown. Mountain sheep are often pictured in pristine wilderness conditions because of their association with the high mountains and steep canyons. In part because of impacts imposed by humans, they typically occur only on steep, precipitous terrain. In Colorado, mountain sheep prefer high-visibility habitat dominated by grass, low shrubs, and rock cover, areas near open escape terrain, and topographic relief. Vegetation succession has led to declines in sheep in recent years on some ranges.

The bulk of the diet is grasses and grass-like plants, browse, and some forbs. At lower elevations browse appears to be the staple in winter. Mountain sheep are gregarious, social mammals. They have a high degree of site fidelity, tying them closely to areas that are familiar and lead to slow rates of expansion. Such fidelity renders them vulnerable to increased stress levels when a disturbance to their range occurs. During spring and summer, mountain sheep segregate by sex and age. Rams form small bachelor herds, while females, lambs, and younger rams form larger units.

Seasonally, mountain sheep may make relatively short migrations from summer to winter range. Many populations make this migration through a series of deliberate, short-distance moves, using favored habitat along the way. Barriers to movement include large expanses of timber or dense brush (that restricts the view), as well as large rivers and wide valley floors.

Bighorns are common in the planning area near Beaver Creek and along Fourmile and High Creeks (see [Map 16](#)). The Beaver Creek herd generally occupies an area between the East and West Forks of Beaver Creek and numbers about 50 animals. This herd has declined in recent years for unknown reasons. The habitat in the area continues to decline in quality due to the encroachment of trees into preferred habitats. Bighorns were reintroduced into the Fourmile area in 1980 with a transplant of 19 animals. The herd has increased and expanded in range and now occupies a large area along Fourmile Creek and to the west along High Creek. This herd numbers about 200 animals.

**Elk:** The elk is a large cervid whose general body color is pale tan or brown. Elk are among the better studied big game mammals of North America. At one time, the animals ranged well eastward on the Great Plains but today they are associated with semi-open forests or forest edges adjacent to parks, meadows, and alpine tundra.

Generalist feeders, elk are both grazers and browsers. In the northern and central Rocky

Mountains, grasses and shrubs compose most of the winter diet, with the former becoming of primary importance in the spring months. Forbs become increasingly important in late spring and summer, and grasses again dominate in the fall. Browse constitutes over 56 % of the winter diet. Elk breed in the fall with the peak of the rut in Colorado occurring in late September.

Most calves are born in late May or early June. Calving grounds are carefully selected by the cows and are generally in locations where cover, forage, and water are found together. During spring and summer adult bulls usually segregate from cows, calves, and younger bulls, and form small bands of their own. Elk tend to inhabit higher elevations during spring and summer and migrate to lower elevations for winter range. During winter, elk form large mixed herds on favored winter range.

Mortality is due mostly to predation on calves, hunting, and winter starvation. Elk were almost extirpated from Colorado in the early 1900s when market hunting caused populations to decline to 500 to 1,000 individuals. A very successful program of restoration (using elk from Wyoming) and careful management have led to current high elk populations in Colorado.

In the planning area the species ranges throughout the northern two-thirds of the area, generally at elevations above 6,000 feet (see [Map 17](#)). They are common in the Beaver Creek WSA, around Cripple Creek, Mount Pisgah, and west to the Guffey area. In recent years elk have expanded their range to lower elevations and now occupy less traditional habitats. The herd that occupies the planning area is estimated at 2,000 animals.

**Mule Deer:** Mule deer are medium-sized cervids with conspicuously long ears and a coarse coat. Mule deer occupy all ecosystems in Colorado from grasslands to alpine tundra. They reach their greatest densities in shrublands on rough, broken terrain that provide abundant browse and cover.

In the Rocky Mountains, fall and winter diets of mule deer consist of browse from a variety of trees and shrubs. In the spring and summer, browse contributes 49 % of the diet, and forbs and grasses make up about 25 % each. Mule deer seem to be able to survive without free water except in arid environments. Over much of Colorado the species is migratory, summering at higher elevations and moving down slope to winter range. During midwinter, deer move to lower elevations and forage on more protected south-facing exposures. This latter movement is timed with severity of weather. Spring and summer ranges are most typically mosaics of meadows, aspen woodlands, alpine tundra-subalpine forest edges, or montane forest edges. Montane forests and pinyon-juniper woodlands with good shrub understory are often favored winter ranges.

In Colorado, mule deer breed in November and December. Yearling females typically produce a single fawn, and older females in good condition produce twins. Does are solitary during fawning. They form small groups of yearlings, does, and fawns when the young are several months old. As winter approaches the size of herds increases and large

numbers may congregate on wintering grounds. When not in rut, adult males often form pairs or small groups of three to five individuals.

Mortality in mule deer varies with age class and region. Fawn mortality is due to predation and starvation. Most mortality in older age classes occurs from hunting or winter starvation. Predators include coyotes, bobcats, golden eagles, mountain lions, black bears, and domestic dogs.

Mule deer are found in the planning area in all ecosystems (see [Map 18](#)). Highest densities are found in mountain shrub and mixed conifer communities at approximately 7,500 feet elevation. Mule deer in the area frequently use wet hay-meadows on private lands, especially in the spring. Deer densities are slowly increasing after several years of below average populations.

**Black Bear:** A medium-sized bear, this species is Colorado's largest surviving carnivore. Color varies greatly, from black to pale brown and blond. Black bears can survive in practically any habitat that offers sufficient food and cover, from the deserts of Arizona to the coniferous forests of northern Canada. In Colorado the species is most common in montane shrublands and forests, and subalpine forests at moderate elevations, especially in areas with well-developed stands of oakbrush or berry-producing shrubs, such as serviceberry and choke-cherry. The animals also occupy habitats ranging from the edge of the alpine tundra to the lower foothills and canyon country.

Black bears are, however, omnivorous and their diet depends largely on the kinds of food that are seasonally available, although their mainstay is vegetation. In spring, emerging grasses and succulent forbs are favored. In summer and early fall, bears take advantage of a variety of berries and other fruits. In late fall, preferences are for berries and mast (acorns), where available. When the opportunity is present, black bears eat a diversity of insects, including beetle larvae and social insects (ants, wasps, bees, termites, etc.), and they kill a variety of mammals, including rodents, rabbits, and young or unwary ungulates.

Black bears, for the most part, are retiring and secretive animals typically staying close to rough topography or dense vegetation that provides escape cover. Numbers are usually low in any particular locale, making it difficult to census and study the animals.

In Colorado, winter denning may begin as early as the first week in October and extend to late December. In Colorado, black bears generally use rock cavities or excavations under shrubs and trees for den sites.

Black bears in Colorado breed from early June to perhaps mid-August. Cubs are born in the den in late January or February, while the mother is in hibernation. Litter size is two or three. Black bears are typically solitary, except for family groups (a sow and cubs), or aggregations at concentrated food resources, where bears may show a relatively high tolerance for each other.

Black bear populations are difficult to estimate. Black bears are locally common in suitable habitats in the northern half of the planning area (see [Map 19](#)) but occur in all habitat types throughout the area. Highest population densities occur in the montane shrublands.

**Mountain Lion:** The mountain lion is the largest cat in the United States. Its color is brownish to reddish brown. Colorado individuals are among the largest representatives of the species.

Mountain lions inhabit most ecosystems in Colorado, including the eastern plains, according to periodic reports. They are most common in rough, broken foothills and canyon country, often in association with montane forests, shrublands, and pinyon-juniper woodlands.

Mountain lions may hunt either during the day or at night, requiring sufficient cover for stalking prey and a lack of intense human activity. Most kills are reported from brushy, wooded, or rough terrain. They hunt by stealth rather than by chase, and the kill is accomplished with a final short rush and lunge.

Mountain lions prey mainly on deer in North America and also take elk and moose, where they are available. In some situations they prey on mice, ground squirrels, beavers, rabbits, porcupines, raccoons, and domestic livestock.

Resident mountain lions maintain contiguous home ranges, whose size varies seasonally depending on prey density as well as a lion's sex, reproductive condition, and age. In western states individual mountain lions often show distinct winter-spring and summer-fall home ranges that correspond to movements of their ungulate prey and local weather conditions. In Colorado, much of the best mountain lion habitat is at mid elevations, such as the foothills of the Front Range. In these habitats resident deer herds may be relatively sedentary and lions rarely make significant seasonal shifts in home range.

Mountain lions have the widest distribution of any mammal in the New World. They once were distributed over all of the conterminous United States, but populations mostly have been extirpated in the East and over significant areas in the West as well. In Colorado the species is still common in much of the western two-thirds of the state, although largely eliminated from the eastern plains. Mountain lions are common in the planning area and some of the highest densities in the state are found in the Canon City area (see [Map 20](#)). Excellent lion habitat is found in Beaver Creek, Phantom Canyon and the Shelf Road areas. There are no population estimates available for lions in the planning area.

**Raptors:** A variety of raptor species occur in the planning area (see [Map 21](#)). The following species have been documented as occurring regularly in the area: golden eagle, peregrine falcon, prairie falcon, red-tailed hawk, Coopers hawk, sharp-shinned hawk, goshawk and kestrel. The following species rarely occur due to the small amount of

suitable habitat in the planning area: ferruginous hawk, rough-legged hawk, Swainson's hawk, harrier, and osprey.

Golden eagles are common in the area and nest in suitable habitats, primarily cliffs and rock outcroppings. The large amount of canyon habitat found in Beaver Creek, Phantom Canyon, Shelf Road and along the Fourmile Creek drainage provide abundant nest sites. Peregrine breeding pairs nest on cliffs and forage over adjacent coniferous and riparian forests. Migrants and winter residents occur mostly around reservoirs, rivers, and marshes but may also be seen in grasslands, agricultural areas, and less often in other habitats. Peregrines can be found in three areas within the Gold Belt TMP area. Active eyries (nests) are located on public lands on Little Turkey Creek, Lower Beaver Creek, and Upper Beaver Creek. Two other eyries located near the planning area are Rock Creek and the Royal Gorge. Prairie falcons are widespread in the area utilizing cliff and rock habitats. Red-tailed hawks are the most common broad-winged hawk found in the area at all elevations and most habitat types. The forest hawks: Coopers hawk, goshawk and sharp-shinned hawk occur in smaller numbers. Kestrels can be found at the lower elevations. Ferruginous, rough-legged, and Swainson's hawks are primarily plains species that would occasionally be seen at the southern end of the planning area. Northern harriers and osprey are also rarely seen on BLM lands in the planning area.

**Merriam's Turkey:** The Merriam's turkey is a fairly common resident in foothills and mesas of southern Colorado, from Las Animas County east to southwestern Baca County and north to Fremont County. The Merriam's subspecies is the native form but the Rio Grande subspecies was introduced on the eastern plains starting in 1981, and now is common along the major rivers, including the Arkansas River. This subspecies is not native to Colorado. The Rio Grande subspecies occurs in the Gold Belt TMP area along the Arkansas River east of Florence. The Merriam's turkey is very common in the planning area in suitable habitat. Merriam's are found primarily in ponderosa pine forests with an understory of Gambel oak. Tall pines are used during all seasons for roosting. In the planning area it is often found in other foothill shrublands (mountain mahogany), pinyon-juniper woodlands, foothill riparian forests, and in agricultural areas. Turkeys are found in large flocks during the winter months in the Garden Park area feeding in agricultural areas, in the Beaver Creek State Wildlife area, and along Fourmile Creek west of Marigold. Smaller flocks winter in the Deer Haven vicinity and along Highway 9. During the spring birds disperse to habitats adjacent to the winter ranges and can be found throughout the planning area, except at higher elevations.

**Birds:** The planning area is a land of contrasts, a place where grasslands of the lower elevations abruptly give way to a backbone of rugged mountains and canyons to the north. The *Colorado Bird Conservation Plan* identifies 13 vegetation habitat types important to birds in Colorado. The habitat classifications and assignment of bird species to the habitats were developed by Colorado Bird Observatory (CBO) staff along with individuals who contributed to early development of the conservation prioritization scheme. Bird species were assigned to specific habitats based on their restriction to, or strong representation within, that habitat type. Of these 13 habitat categories, only 9 (alpine tundra, aspen, grassland, riparian, mixed conifer, mountain shrubland, pinyon-

juniper, ponderosa pine, and spruce-fir) occur in the planning area and were described previously. Bird species typically found in these habitats are described for each habitat type.

The alpine tundra provides habitat for a small number of species that are adapted to high elevations with short growing seasons. Tundra obligate species include white-tailed ptarmigan, American pipit and brown-capped rosy finch.

Aspen provides habitat for a variety of wildlife species from large ungulates to small non-game birds and mammals. Because aspen is usually mixed with adjacent conifer types, the importance of aspen dominated woodlands to birds and other wildlife far exceeds the aerial extent of the stands themselves. Approximately 134 species of birds are reported to use aspen-dominated habitats. This list includes 34 cavity nesters, 7 canopy nesters, 10 shrub nesters, and 10 ground nesters. Few species are limited to aspen but some reach their highest breeding densities within this habitat type. Bird communities within aspen stands are often composites of aspen-associated species along with many species found in the surrounding conifer habitats. The exact species mix, however, depends on the relative amounts of aspen and conifer in the stand. Perhaps the most important contribution of aspen-dominated woodlands to avian nesting habitat is as a structural substrate for primary cavity excavators and secondary cavity nesters. False tinder rot is a major source of heartwood decay in live aspens; it produces a hard sapwood shell surrounding a soft interior that is ideal for cavity excavation. Habitat preferences of primary cavity excavators and the decay characteristics of aspen combine to produce much higher cavity densities in aspen than in surrounding conifer habitats. Species that are typically found in aspen habitats include broad-tailed hummingbird, house wren, Lincoln's sparrow, white-crowned sparrow, dark-eyed junco, violet-green swallow, purple martin, mountain bluebird, Cooper's hawk, western wood-pewee, warbling vireo, red-naped sapsucker, mountain chickadee, pygmy and white-breasted nuthatches, and western bluebirds.

Grasslands provide habitat for many species. The severity of the semi-arid climate produces contrasts in vegetation. Grassland birds thus evolved in a shifting landscape mosaic, with access to patches of vegetation in a variety of successional stages and conditions. Species that are typically found in the grassland habitat in the planning area are ferruginous hawk, prairie falcon, upland sandpiper, burrowing owl, Cassin's sparrow, lark bunting, grasshopper sparrow, McCown's longspur, western meadowlark, great-horned owl, golden eagle, common raven, mourning dove and American kestrel.

Species most commonly found in the subalpine riparian shrubland habitats are broad-tailed hummingbird, dusky flycatcher, yellow warbler, MacGillivray's warbler, Wilson's warbler, Lincoln's sparrow, song sparrow, white-crowned sparrow, and fox sparrow. In deciduous foothills riparian systems, yellow warbler is the species most frequently detected, followed by American robin, northern flicker, house wren, warbling vireo, song sparrow, western wood-pewee, and broad-tailed hummingbird. In coniferous systems, cordilleran flycatcher is the most frequently detected species, followed by broad-tailed

hummingbird, ruby-crowned kinglet, American robin, golden-crowned kinglet, Swainson's thrush, mountain chickadee, yellow-rumped warbler, and western tanager.

Mixed conifer habitats support species such as the yellow-rumped warbler, western tanager, dark-eyed junco, and evening grosbeak. Blue grouse and Williamson's sapsucker, red-naped sapsucker, house wren, and western bluebird are also common.

Mountain shrubland habitat provides valuable food and cover for many wildlife species. Many shrub species produce edible fruits, and they provide a large selection of forage types. Often the soil moisture is enough for shrubs to grow densely. Gambel oak acorns are an important mast crop in many areas. Birds such as band-tailed pigeon, wild turkey, Lewis's woodpecker, Steller's jay, western scrub-jay, and green-tailed towhee feed on the acorns. Other birds such as the Virginia's warbler utilize mountain shrub habitat for resting, feeding, and nesting. Dusky flycatcher, Virginia's warbler, and green-tailed towhee are associated with Gambel oak and other shrub habitat.

Pinyon-juniper habitat supports the largest nesting bird species list of any upland vegetation type in the West. Lowland riparian habitats will, across an entire year, harbor more species of birds due to their importance to migrants. A single ponderosa pine stand typically supports more species than a single pinyon-juniper stand. Aspen stands may hold a higher density of birds. The richness of the pinyon-juniper vegetation type, however, is important due to its middle elevation. Survey tallies in pinyon-juniper are similar in species diversity to the best riparian. Several species are found in the pinyon-juniper habitat and include: black-chinned hummingbird, gray flycatcher, Cassin's kingbird, gray vireo, pinyon jay, juniper titmouse, black-throated gray warbler, Scott's oriole, ash-throated flycatcher, Bewick's wren, mountain chickadee, white-breasted nuthatch, and chipping sparrow.

Birds typical of the ponderosa pine forest type include Merriam's turkey, Williamson's sapsucker, pygmy nuthatch, western bluebird, band-tailed pigeon, Mexican spotted owl, Grace's warbler, flammulated owl, red-breasted nuthatch, violet-green swallow, western tanager, and chipping sparrow. Ponderosa pine forests support a rich avifauna, in part a reflection of the prevalence of Gambel oak in many ponderosa stands. Oak adds structure and prey-insect densities are higher than in nearby conifers.

Spruce-fir forests in the Southern Rocky Mountains support fewer insects and insectivorous birds and fewer Neotropical migrants. Instead, the avian community in this area has a comparatively large number of seed-eating birds, a reflection of the abundant cone crops available here. Birds commonly found in this forest type include the gray jay, mountain chickadee, red-breasted nuthatch, ruby-crowned kinglet, hermit thrush, pine grosbeak, pine siskin, boreal owl, olive-sided flycatcher, Hammond's flycatcher, three-toed woodpecker, brown creeper, and golden-crowned kinglet.

## Wildlife Habitat Affected Environment Maps

[Map 16](#) – Bighorn Sheep Habitat

[Map 17](#) – Elk Habitat

[Map 18](#) – Mule Deer Habitat

[Map 19](#) – Black Bear Habitat

[Map 20](#) – Mountain Lion Habitat

[Map 21](#) – Raptor Habitat